Table S1. Patient demographics

Characteristics	Oophorectomy	Conservative Surgery
Number	*n*=68,580	*n*=20,597
Age (years)	30.8 (±11.3)	23.6 (±9.9)
<20	13,076 (19.1%)	7,833 (38.0%)
20-29	17,019 (24.8%)	6,792 (33.0%)
30-39	20,090 (29.3%)	4,714 (22.9%)
40-49	18,394 (26.8%)	1,258 (6.1%)
Year		
2001 - 2003	14,350 (20.9%)	3,652 (17.7%)
2004 - 2006	15,256 (22.2%)	4,193 (20.2%)
2007 - 2009	15,137 (22.1%)	4,444 (21.6%)
2010 - 2012	13,367 (19.5%)	4,666 (22.6%)
2013 - 2015	10,470 (15.3%)	3,690 (17.9%)
Race/ethnicity		
White	31,571 (46.0%)	8,942 (43.4%)
Black	8,535 (12.4%)	2,374 (11.5%)
Hispanic	10,947 (16.0%)	4,318 (21.0%)
Asian or Pacific Islander	1,644 (2.4%)	664 (3.2%)
Native American	470 (0.7%)	104 (0.5%)
Other	2,221 (3.2%)	935 (4.5%)
Missing	13,193 (19.2%)	3,261 (15.8%)
Obesity		
Non-obese	62,041 (90.5%)	19,189 (93.2%)
Obesity	3,766 (5.5%)	951 (4.6%)
Morbid obesity	2,773 (4.0%)	457 (2.2%)
Charlson Index		
0	59,755 (87.1%)	18,668 (90.6%)
1	6,994 (10.2%)	1,678 (8.1%)
2	1,257 (1.8%)	208 (1.0%)
≥3	574 (0.8%)	44 (0.2%)
Median household income		
$1-$38,999	16,147 (23.5%)	4,351 (21.1%)
$39,000-$47,999	16,239 (23.7%)	4,270 (20.7%)
$48,000-$62,999	16,750 (24.4%)	5,100 (24.8%)
≥$63,000	18,018 (26.3%)	6,478 (31.5%)
Missing	1,426 (2.1%)	398 (1.9%)
Primary expected payer		
Medicare	1,258 (1.8%)	191 (0.9%)
Medicaid	14,622 (21.3%)	5,279 (25.6%)
Private including HMO	40,410 (58.9%)	12,237 (59.4%)
Self-pay	8,495 (12.4%)	1,830 (8.9%)
No charge	713 (1.0%)	144 (0.7%)
Other	2,920 (4.3%)	887 (4.3%)
Missing	163 (0.2%)	29 (0.1%)
Hospital bed size		
Small	8,205 (12.0%)	2,153 (10.5%)
Medium	18,228 (26.6%)	5,620 (27.3%)

Large	41,889 (61.1%)	12,782 (62.1%)
Missing	259 (0.4%)	42 (0.2%)
Hospital teaching status		
Rural	7,833 (11.4%)	1,527 (7.4%)
Urban Non-Teaching	27,579 (40.2%)	6,402 (31.1%)
Urban Teaching	32,910 (48.0%)	12,626 (61.3%)
Missing	259 (0.4%)	42 (0.2%)
Hospital region		
Northeast	11,075 (16.1%)	5,366 (26.1%)
Midwest	14,622 (21.3%)	3,389 (16.5%)
South	25,961 (37.9%)	5,700 (27.7%)
West	16,922 (24.7%)	6,142 (29.8%)
Adnexal mass		
No	22,684 (32.9%)	4,738 (23.0%)
Yes	46,215 (67.1%)	15,863 (77.0%)
Surgical approach		
Laparotomy	46,135 (67.3%)	8,379 (40.7%)
Laparoscopy	22,445 (32.7%)	10,555 (51.2%)
Missing	0 (0.0%)	1,663 (8.1%)

Number with percentage per column is shown.

Table S2. Patient demographics of women who underwent surgery for ovarian torsion and multivariable analysis for factors associated with conservative surgery

Characteristics	Oophorectomy	Conservative Surgery	P-value	Adjusted-OR (95%CI)	P-value‡
Number	n=68,580	n=20,597			
Age (years)	30.8 (±11.3)	23.6 (±9.9)	<0.001		<0.001*
<20	13,076 (62.5%)	7,833 (37.5%)		7.96 (7.43-8.52)	<0.001
20-29	17,019 (71.5%)	6,792 (28.5%)		5.85 (5.47-6.26)	<0.001
30-39	20,090 (81.0%)	4,714 (19.0%)		3.39 (3.17-3.63)	<0.001
40-49	18,394 (93.6%)	1,258 (6.4%)		1	
Year			<0.001		<0.001*
2001 - 2003	14,350 (79.8%)	3,652 (20.2%)		1	
2004 - 2006	15,256 (78.5%)	4,193 (21.5%)		1.03 (0.97-1.09)	0.318
2007 - 2009	15,137 (77.3%)	4,444 (22.7%)		1.15 (1.08-1.21)	<0.001
2010 - 2012	13,367 (74.1%)	4,666 (25.9%)		1.21 (1.14-1.28)	<0.001
2013 - 2015	10,470 (74.0%)	3,690 (26.0%)		1.18 (1.11-1.25)	<0.001
Race/ethnicity			<0.001		<0.001*
White	31,571 (77.9%)	8,942 (22.1%)		1	
Black	8,535 (78.2%)	2,374 (21.8%)		1.02 (0.96-1.08)	0.522
Hispanic	10,947 (71.7%)	4,318 (28.3%)		1.21 (1.15-1.27)	<0.001
Asian or Pacific Islander	1,644 (71.2%)	664 (28.8%)		1.18 (1.06-1.31)	0.002
Native American	470 (81.9%)	104 (18.1%)		0.75 (0.59-0.96)	0.020
Other	2,221 (70.4%)	935 (29.6%)		1.13 (1.03-1.24)	0.009
Missing	13,193 (80.2%)	3,261 (19.8%)		0.99 (0.93-1.04)	0.577
Obesity			<0.001		<0.001*
Non-obese	62,041 (76.4%)	19,189 (23.6%)		1	
Obesity	3,766 (79.8%)	951 (20.2%)		0.91 (0.84-0.99)	0.031
Morbid obesity	2,773 (85.9%)	457 (14.1%)		0.65 (0.58-0.73)	<0.001
Charlson Index			<0.001		<0.001*
0	59,755 (76.2%)	18,668 (23.8%)		1	
1	6,994 (80.7%)	1,678 (19.3%)		0.91 (0.85-0.97)	0.003
2	1,257 (85.8%)	208 (14.2%)		0.92 (0.78-1.08)	0.304
≥3	574 (92.9%)	44 (7.1%)		0.48 (0.35-0.66)	<0.001
Median household income			<0.001		<0.001*
$1-$38,999	16,147 (78.8%)	4,351 (21.2%)		1	
$39,000-$47,999	16,239 (79.2%)	4,270 (20.8%)		1.09 (1.03-1.15)	0.002
$48,000-$62,999	16,750 (76.7%)	5,100 (23.3%)		1.14 (1.08-1.20)	<0.001
≥$63,000	18,018 (73.6%)	6,478 (26.4%)		1.34 (1.26-1.41)	<0.001
Missing	1,426 (78.2%)	398 (21.8%)		1.04 (0.91-1.18)	0.586
Primary expected payer			<0.001		<0.001*
Medicare	1,258 (86.8%)	191 (13.2%)		1	
Medicaid	14,622 (73.5%)	5,279 (26.5%)		1.19 (0.99-1.42)	0.055
Private including HMO	40,410 (76.8%)	12,237 (23.2%)		1.26 (1.06-1.49)	0.010
Self-pay	8,495 (82.3%)	1,830 (17.7%)		0.97 (0.81-1.16)	0.729
No charge	713 (83.2%)	144 (16.8%)		0.82 (0.63-1.06)	0.128
Other	2,920 (76.7%)	887 (23.3%)		1.31 (1.08-1.59)	0.005
Missing	163 (84.9%)	29 (15.1%)		0.76 (0.47-1.23)	0.268
Hospital bed size			<0.001		<0.001*
Small	8,205 (79.2%)	2,153 (20.8%)		1	

Medium	18,228 (76.4%)	5,620 (23.6%)		1.19 (1.11-1.26)	<0.001
Large	41,889 (76.6%)	12,782 (23.4%)		1.22 (1.15-1.29)	<0.001
Missing	259 (86.0%)	42 (14.0%)			
Hospital teaching status			<0.001		<0.001*
Rural	7,833 (83.7%)	1,527 (16.3%)		1	
Urban Non-Teaching	27,579 (81.2%)	6,402 (18.8%)		0.97 (0.91-1.04)	0.408
Urban Teaching	32,910 (72.3%)	12,626 (27.7%)		1.39 (1.30-1.49)	<0.001
Missing	259 (86.0%)	42 (14.0%)			
Hospital region			<0.001		<0.001*
Northeast	11,075 (67.4%)	5,366 (32.6%)		1.82 (1.73-1.91)	<0.001
Midwest	14,622 (81.2%)	3,389 (18.8%)		1.07 (1.01-1.13)	0.014
South	25,961 (82.0%)	5,700 (18.0%)		1	
West	16,922 (73.4%)	6,142 (26.6%)		1.50 (1.43-1.57)	<0.001
Adnexal mass			<0.001		
No	22,684 (82.7%)	4,738 (17.3%)		1	
Yes	46,215 (74.4%)	15,863 (25.6%)		2.44 (2.33-2.51)	<0.001
Surgical approach			<0.001		<0.001*
Laparotomy	46,135 (84.6%)	8,379 (15.4%)		1	
Laparoscopy	22,445 (68.0%)	10,555 (32.0%)		2.42 (2.33-2.51)	<0.001
Missing	0 (0.0%)	1,663 (100%)		n/a	0.981

Number with percentage per row is shown (percentage per column in Table S2). Total number may not be 89,177 due to weighted value. A binary logistic regression model was used for multivariable analysis. Missing cases in hospital bed size and teaching status were not used in the multivariable model due to multicollinearity. Abbreviations: OR, odds ratio; and CI, confidence interval. ‡P-value for multivariable model. *P-value for interaction.

Table S3. Type of conservative surgery for ovarian torsion

Characteristic	Laparoscopy	Laparotomy	Unknown	Total
Conservative surgery n(%)	10,555 (55.7%)	8,379 (44.3%)	1,663	20,597
Detorsion only n(%)*	687 (68.8%)	312 (31.2%)	1353	2,352*
Cystectomy n(%)*	7,806 (49.9%)	7,827 (50.1%)	241	15,832*
Cyst drainage n(%)*	3,181 (84.7%)	574 (15.3%)	78	3,833*
Oophoropexy*	28 (28.9%)	69 (71.1%)	0	97*
Oophorectomy n(%)	22,445 (32.7%)	46,135 (67.3%)	0	68,580
Total n(%)	33,000 (37.0%)	54,514 (61.1%)	1,663 (1.9%)	89,177

*Numbers do not add up to total as a small percentage of patients had more than one surgical procedure performed, for example, cystectomy and oophoropexy. Also, no information for laterality is available, thus it is possible that two procedures were done on two different ovaries.

Table S4. Independent characteristics for venous thromboembolism

Characteristic	OR (95%CI)	*P*-value
Age (years)	1.01 (1.01-1.02)	0.043
CCI	1.24 (1.13-1.35)	<0.001
Hospital bed size		<0.001*
Small	0.07 (0.02-0.20)	<0.001
Medium	0.74 (0.55-0.99)	0.044
Large	1	
Hospital teaching status		<0.001*
Rural	0.17 (0.07-0.41)	<0.001
Urban Non-Teaching	0.85 (0.65-1.10)	0.219
Urban Teaching	1	
Length of stay	1.11 (1.10-1.13)	<0.001

A binary logistic regression model (conditional backward method) was performed for multivariable analysis. All the covariates with a *P*<0.05 in univariable analysis were entered in the initial model, and the least significant covariate was removed until the last model retained the significant covariates using *P*<0.05 as a cutoff. Missing cases in hospital status were not entered in the mode due to multicollinearity. *Reference *P*-value for interaction. Abbreviations: CCI, Charlson comorbidity index; OR, odds ratio; and CI, confidence interval.